

Summary of ISO Capital Expenditure Forecast - Incentive Projects (\$000)

PIN	Project Title	Order #	High/Low Voltage	OD	Project Total (ISO & non-ISO)				ISO Portion			
					Prior	2016	2017	Total	Prior	2016	2017	Total
Incentive Transmission Projects includes only Direct Installation Expenditures												
04847	Devers-Colorado River (DCR)											
04847	DEVERS-Colorado River NO. 2 500KV T/L (CA): BUILD 110 MI single circuit 500KV T/L	800062494	High	Jun-13	-	5	-	5	-	5	-	5
04847	DEVERS-VALLEY #2 500KV T/L: BUILD A NEW 41.6 MILE SINGLE-CIRCUIT 500KV T/L	800062527	High	Sep-13	-	(0)	-	(0)	-	(0)	-	(0)
04847	DEVERS SUB: EXTEND BUS TWO POSITIONS TO THE WEST AND EQUIP NEW POSITION 8	800062850	High	Dec-13	-	(27)	-	(27)	-	(27)	-	(27)
04847	VALLEY SUB: INSTALL A LINE POSITION TO TERMINATE THE DEVERS-VALLEY #2 T/L	800062902	High	Sep-13	-	(2)	-	(2)	-	(2)	-	(2)
04847	DEVERS-Colorado River JCT SERIES CAPACITOR (CA): INSTALL A NEW 2700A, 875MVAR SERIES CAP	800063033	High	Dec-13	-	1	-	1	-	1	-	1
04847	Colorado River Switchyard	800403645	High	Jun-13	-	(4)	-	(4)	-	(4)	-	(4)
04847	Total DCR				-	(27)	-	(27)	-	(27)	-	(27)
Various	Tehachapi - Segments 3B & 3C											
07183	230 kV Transmission Line Between Highwind and Windhub Substations	800062547	High	Dec-12	-	18	-	18	-	18	-	18
07183	Highwind-Windhub 230kV transmission line cathodic protection	900604086	High	Dec-12	-	1,053	-	1,053	-	1,053	-	1,053
07183	Highwind Substation: Visual Mitigation Measures	901374880	High	Aug-15	-	5	-	5	-	5	-	5
07183	Total Segment 3B				-	1,076	-	1,076	-	1,076	-	1,076
	Total Tehachapi Segments 3B & 3C				-	1,076	-	1,076	-	1,076	-	1,076
	Total Tehachapi Segments 1-3 - Incentive Qualified				-	1,076	-	1,076	-	1,076	-	1,076
Various	Tehachapi - Segments 4-11											
06435	Antelope-Whirlwind 500kV T/L: Construct new 14-mile single-circuit 500kV T/L.	800217116	High	Apr-12	-	188	-	188	-	188	-	188
06435	Total Segment 4				-	188	-	188	-	188	-	188
05472	Antelope Vincent #2 500kV T/L	800217232	High	Jan-13	-	21	-	21	-	21	-	21
05472	Total Segment 5				-	21	-	21	-	21	-	21
05243	New Vincent-Duarte 500kV T/L	800217316	High	Nov-14	-	2,213	-	2,213	-	2,213	-	2,213
05243	Total Segment 6				-	2,213	-	2,213	-	2,213	-	2,213
06438	New Vincent-Rio Hondo #2 500kV T/L	800218130	High	Dec-14	-	14	-	14	-	14	-	14
06438	New Antelope-Mesa 500kV T/L	800218138	High	Jan-15	-	4,394	-	4,394	-	4,394	-	4,394
06438	Total Segment 7				-	4,408	-	4,408	-	4,408	-	4,408
06439	New 33 mile Vincent-Mira Loma 500kV T/L	800218645	High	May-15	-	8,404	-	8,404	-	8,404	-	8,404
06439	Total Segment 8				-	8,404	-	8,404	-	8,404	-	8,404
07553	Mira Loma-Vincent 500 kV T/L (UG): Civil & Cable Portion	900610533	High	Oct-16	168,110	73,733	-	241,843	168,110	73,733	-	241,843
07553	Mira Loma Substation	901094247	High	Oct-16	14,120	9,481	-	23,602	14,120	9,481	-	23,602
07553	Vincent Substation	901094249	High	Oct-16	358	52	-	410	358	52	-	410
07553	Acquire Easements for TRTP Segment 8A	801025887	High	Oct-16	9,653	3,998	-	13,651	9,653	3,998	-	13,651
07553	East Transition Station	901109252	High	Oct-16	6,244	3,362	-	9,606	6,244	3,362	-	9,606
07553	West Transition Station	901109253	High	Oct-16	6,449	4,553	-	11,002	6,449	4,553	-	11,002
07553	Chino Hills Related OH Line Work	901486465	High	Oct-16	6,487	4,662	-	11,149	6,487	4,662	-	11,149
07553	Total Segment 8A (TRTP 500 kV Underground)				211,422	99,841	-	311,263	211,422	99,841	-	311,263
06440	WHIRLWIND - CONSTRUCT NEW SUBSTATION	800216839	High	Dec-12	-	385	-	385	-	385	-	385
06440	VINCENT - EXTEND 500KV SWITCHRACK ADDING FOUR BAY POSITIONS. EXTEND 220KV SWITCHRACK ADDING ONE BAY POSITION.	800216929	High	Dec-13	-	78	-	78	-	78	-	78
06440	WINDHUB - CONSTRUCT 500KV SWITCHYARD & AA TRANSFORMER BANK	800217014	High	Dec-12	-	0	-	0	-	0	-	0

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					Prior	2016	2017	Total	Prior	2016	2017	Total
06440	MIRA LOMA SUB - EQUIP 1 500kV line protection	800218712	High	Jul-14	-	(64)	-	(64)	-	(64)	-	(64)
06440	VINCENT - EXTEND 500KV SWITCHRACK ADDING FOUR BAY POSITIONS. EXTEND 220KV SWITCHRACK ADDING ONE BAY POSITION. REMOVE MIDWAY NO. 3 SERIES CAPACITOR.	800219576	High	Jan-14	(563)	(78)	-	(641)	(563)	(78)	-	(641)
06440	Vincent Substation Administration and Control Building	900817489	High	Jan-15	-	2	-	2	-	2	-	2
06440	Total Segment 9				(563)	325	-	(238)	(563)	325	-	(238)
06441	Whirlwind - Windhub 500kV T/L	800217239	High	Apr-12	-	1,952	-	1,952	-	1,952	-	1,952
06441	Total Segment 10				-	1,952	-	1,952	-	1,952	-	1,952
06442	Mesa-Vincent #1 500kV T/L	800217339	High	May-15	-	10,802	-	10,802	-	10,802	-	10,802
06442	Mesa-Gould 220kV T/L	800217366	High	May-15	-	0	-	0	-	0	-	0
06442	Total Segment 11				-	10,802	-	10,802	-	10,802	-	10,802
Total Tehachapi Segments 4-11 - Incentive Qualified					210,859	127,966	-	338,825	210,859	127,966	-	338,825
Total Tehachapi - Segments 1-11 Incentive Qualified					210,859	129,231	-	340,089	210,859	129,231	-	340,089
06551	Eldorado-Ivanpah Transmission Project (EITP)											
06551	Eldorado SS Upgrades EITP	900316934	High	Jun-13	-	(24)	-	(24)	-	(24)	-	(24)
06551	Total EITP				-	(24)	-	(24)	-	(24)	-	(24)
07018	Lugo-Pisgah											
	Lugo-Pisgah Phase II, Siting Study	800499057	High	Cancelled	-	-	-	-	-	-	-	-
06929	Red Bluff											
06929	Red Bluff Substation: Construct a new 500/230kV substation	900248417	High	Jun-13	-	2	-	2	-	2	-	2
06929	DCR #2 - Loop DCR line into Red Bluff Sub	900342200	High	Jun-13	-	0	-	0	-	0	-	0
06929	Remaining Red Bluff Substation Work (Minor Additions)	901363478	High	Dec-15	8,757	(133)	-	8,624	8,757	(133)	-	8,624
06929	Total Red Bluff				8,757	(131)	-	8,626	8,757	(131)	-	8,626
7076/ 7061	Colorado River Substation Expansion (CRSE)											
07061	Devers: Relays for Devers-Red Bluff 500kV N-2 Special Protection System (SPS)	900603420	High	May-15	-	43	-	43	-	43	-	43
07061	Red Bluff: Relays for Devers-Red Bluff 500kV N-2 SPS	900603421	High	May-15	-	0	-	0	-	0	-	0
07061	Colorado River Substation: Relays for D-RB 500kV N-2 SPS	900603422	High	May-15	-	5	-	5	-	5	-	5
	Total CRSE				-	49	-	49	-	49	-	49
7067/ 7695/ 7650	Whirlwind Substation Expansion Project (Whirlwind)											
07067	Whirlwind 2nd AA Bank	900692361	High	Dec-14	-	1	-	1	-	1	-	1
07695	Install N60 relays to add generation to Whirlwind AA Bank SPS	901368041	High	Apr-16	166	177	-	343	166	177	-	343
07650	Whirlwind 3rd AA bank and SPS	901307713	High	Feb-17	6,212	28,069	500	34,782	6,212	28,069	500	34,782
	Total Whirlwind				6,379	28,247	500	35,126	6,379	28,247	500	35,126
06902	South of Kramer (Jasper/ Calcite Substation)											
06902	Jasper: LGIA Engineer and construct a new interconnection facility	900295954	High	Aug-20	2,085	2,650	2,650	7,385	2,085	2,650	2,650	7,385
06902	Lugo Sub (NU) - Upgrade line protection	900704365	High	Aug-20	-	-	71	71	-	-	71	71
	Total South of Kramer				2,085	2,650	2,721	7,456	2,085	2,650	2,721	7,456
06420	West of Devers											
06420	West of Devers Upgrade Project: Preliminary Engineering & Licensing	800062511	High	Dec-21	38,712	1,320	634	40,667	38,712	1,320	634	40,667
06420	Devers-El Casco, El Casco-San Bernardino, and Devers-Vista #1 & #2 220kV line rebuild	900463423	High	Cancelled	-	-	-	-	-	-	-	-
06420	Devers Sub: Install 220kV CBs & DSs	901453922	High	Dec-21	25	1	1,847	1,873	25	1	1,847	1,873
06420	El Casco Sub: Install 220kV Terminal Equipment	901453923	High	Dec-21	12	0	1,947	1,959	12	0	1,947	1,959

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06420	Etiwanda Sub: Install 220kV Relay Equipment	901453924	High	Dec-21	1	0	500	501	1	0	500	501
06420	San Bernardino Sub: Install Disconnects	901453925	High	Dec-21	6	0	2,347	2,353	6	0	2,347	2,353
06420	Rebuild Devers-El Casco & El Casco-San Bernardino 220 kV lines with 2B-1590 ACSR on double circuit towers	901460764	High	Dec-21	3,226	7,726	230,517	241,469	3,226	7,726	230,517	241,469
06420	Vista Sub: Install Disconnects	901453926	High	Dec-21	10	-	1,847	1,857	10	-	1,847	1,857
06420	Acquire Easements for West of Devers	801275175	High	Dec-21	373	3,808	13,643	17,823	373	3,808	13,643	17,823
06420	Total West of Devers				42,365	12,855	253,282	308,503	42,365	12,855	253,282	308,503
Total Incentive Transmission Projects					270,444	172,850	256,504	699,798	270,444	172,850	256,504	699,798
Total Incentive Transmission Projects (Closing by Dec 2017)					225,994	157,344	500	383,838	225,994	157,344	500	383,838